

**IN THE CLAIMS:**

Please amend the claims as follows:

Claim 1 (Currently Amended): A rock drilling rig comprising:

- a carrier,
- at least one feeding beam,
- a rock drilling apparatus movable in relation to the feeding beam and having a percussion device,
- one or more sensors arranged to the rock drilling apparatus to measure the operation of the rock drilling apparatus,
- at least one first control unit arranged on the carrier of the rock drilling rig to control the operation of the rock drilling apparatus on the basis of measuring information received from the sensors,
- a second control unit arranged to the rock drilling apparatus,
- a data communications link between the first control unit and the second control unit for transmitting information between the control units,
- the sensors monitoring the operation of the rock drilling apparatus are connected to transmit measuring information to the second control unit,
- the second control unit comprises a memory unit for storing basic settings for the rock drilling apparatus and a processing unit for calculating parameters describing the operating state of the rock drilling apparatus on the basis of said basic settings and measuring information,

whereby the prevailing operating state of the drilling apparatus is defined in the drilling apparatus, and

the first control unit is arranged to control the operation of the rock drilling apparatus on the basis of the parameters received from the second control unit and instructions given to the first control unit.

Claim 2 (Currently Amended): A rock drilling rig as claimed in claim 1, wherein the second control unit is arranged inside the body of the rock drilling apparatus and at least some of the sensors ~~are integrated as part of~~ and the second control unit form together a compact entity.

Claim 3 (Original): A rock drilling rig as claimed in claim 1, wherein the first data communications link between the first control unit and the second control unit is a CAN bus.

Claim 4 (Currently Amended): A rock breaking machine comprising:  
a body,  
a percussion device arranged inside the body to generate impact pulses to a tool connectable to the rock breaking machine,  
one or more sensors arranged to measure the operation of the rock breaking machine,  
a control unit,  
said sensors are arranged to transmit measuring information to the control unit,

the control unit comprises a memory unit for storing basic settings for the rock breaking machine and further a processing unit that is, during operation, arranged to form parameters describing the operating state of the rock breaking machine on the basis of the basic settings and measuring information, and

the control unit comprises a connection to a data communications link that enables communication between the control unit and at least one control unit external to the rock breaking machine for controlling the operation of the rock breaking machine so as to achieve the desired operating state of the rock breaking machine.

Claim 5 (Previously Presented): A rock breaking machine as claimed in claim 4, wherein the control unit is arranged inside the body of the rock breaking machine and at least some of the sensors are part of the control unit.

Claim 6 (New): A rock breaking machine comprising:  
a body,  
a percussion device arranged inside the body to generate impact pulses to a tool connectable to the rock breaking machine,  
one or more sensors arranged to measure the operation of the rock breaking machine,  
a control unit arranged inside the body of the rock breaking machine,  
said sensors are arranged to transmit measuring information to the control unit,  
the control unit comprises a memory unit for storing basic settings for the rock breaking machine and further a processing unit that is, during operation, arranged to form parameters

describing the operating state of the rock breaking machine on the basis of the basic settings and measuring information, and

the control unit comprises a connection to a data communications link that enables communication between the control unit and at least one control unit external to the rock breaking machine for controlling the operation of the rock breaking machine so as to achieve the desired operating state of the rock breaking machine.

Claim 7 (New): A rock drilling apparatus arranged movable in relation to a feeding beam and comprising:

a body,

a percussion device arranged inside the body to generate impact pulses to a tool connectable to the rock drilling apparatus,

one or more sensors arranged to measure the operation of the rock drilling apparatus,

a control unit,

said sensors are arranged to transmit measuring information to the control unit,

the control unit comprises a memory unit for storing basic settings for the rock drilling apparatus and further a processing unit that is, during operation, arranged to form parameters describing the operating state of the rock drilling apparatus on the basis of the basic settings and measuring information, and

the control unit comprises a connection to a data communications link that enables communication between the control unit and at least one control unit external to the rock drilling

apparatus for controlling the operation of the rock drilling apparatus so as to achieve the desired operating state of the rock drilling apparatus.

Claim 8 (New): A rock breaking hammer comprising:

a body,

a percussion device arranged inside the body to generate impact pulses to a tool connectable to the rock breaking hammer,

one or more sensors arranged to measure the operation of the rock breaking hammer,

a control unit,

said sensors are arranged to transmit measuring information to the control unit,

the control unit comprises a memory unit for storing basic settings for the rock breaking hammer and further a processing unit that is, during operation, arranged to form parameters describing the operating state of the rock breaking hammer on the basis of the basic settings and measuring information, and

the control unit comprises a connection to a data communications link that enables communication between the control unit and at least one control unit external to the rock breaking hammer for controlling the operation of the rock breaking hammer so as to achieve the desired operating state of the rock breaking hammer.

Claim 9 (New): A rock drilling rig comprising:

a carrier,

at least one feeding beam,

a rock drilling apparatus movable in relation to the feeding beam and having a percussion device,

one or more sensors arranged to the rock drilling apparatus to measure the operation of the rock drilling apparatus,

at least one first control unit arranged on the carrier of the rock drilling rig to control the operation of the rock drilling apparatus on the basis of measuring information received from the sensors,

a second control unit arranged to the rock drilling apparatus,

a data communications link between the first control unit and the second control unit for transmitting information between the control units,

the sensors monitoring the operation of the rock drilling apparatus are connected to transmit measuring information to the second control unit,

the second control unit comprises a memory unit for storing basic settings for the rock drilling apparatus and a processing unit for calculating parameters describing the operating state of the rock drilling apparatus on the basis of said basic settings and measuring information, the second control unit is arranged to inform the first control unit about external resources that the second control unit needs to perform a required operation, and

the first control unit is arranged to adjust actuators affecting the operation of the rock drilling apparatus on the basis of the parameters received from the second control unit and instructions given to the first control unit.

Claim 10 (New): A rock drilling rig comprising:

a carrier,

at least one feeding beam,

a rock drilling apparatus movable in relation to the feeding beam and having a percussion device,

one or more sensors arranged to the rock drilling apparatus to measure the operation of the rock drilling apparatus,

at least one first control unit arranged on the carrier of the rock drilling rig to control the operation of the rock drilling apparatus on the basis of measuring information received from the sensors,

a second control unit arranged to the rock drilling apparatus,

a data communications link between the first control unit and the second control unit for transmitting information between the control units,

the sensors monitoring the operation of the rock drilling apparatus are connected to transmit measuring information to the second control unit,

the second control unit comprises a memory unit for storing basic settings for the rock drilling apparatus and a processing unit for calculating parameters describing the operating state of the rock drilling apparatus on the basis of said basic settings and measuring information, and

the first control unit is arranged to control the operation of the rock drilling apparatus on the basis of the parameters received from the second control unit and instructions given to the first control unit, and

the first control unit is arranged to adjust a first valve arranged in a pressure medium channel leading from a pump to the percussion device, whereby the first control unit is arranged to control external resources of the drilling apparatus.